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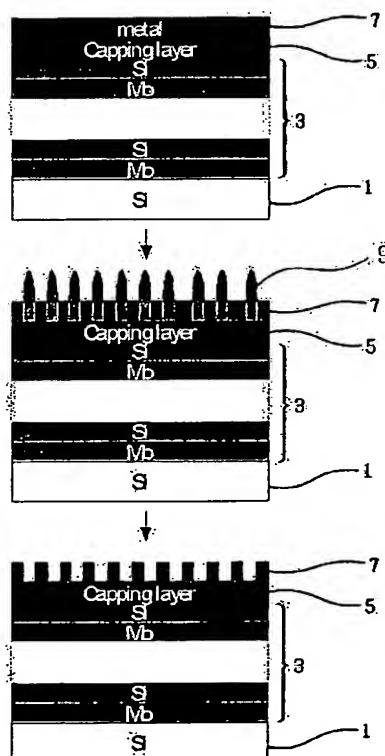
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[Continued on next page]

(54) Title: FABRICATION METHOD OF EXTREME ULTRAVIOLET RADIATION MASK MIRROR USING ATOMIC FORCE MICROSCOPE LITHOGRAPHY



(57) Abstract: The present invention relates to a method for manufacturing a reflective multi-layered thin film mirror for an extreme ultraviolet radiation (EUV) exposure process that is one of the next generation exposure process masks using an atomic force microscope (AFM). This reflective multi-layered thin film mirror for extreme ultraviolet radiation (EUV) exposure process allows metal oxide structures with fixed height and width to be obtained using anodic oxidation phenomenon between the cantilever tip of a atomic force microscope and an absorber material during the patterning of an absorber layer on a multi-layered thin film of a substrate, followed by forming the ultra-fine line width absorber patterns via etching of the metal oxide structure. Use of the manufacturing process of this invention is advantageous in manufacturing of extreme ultraviolet radiation exposure mask mirrors with high resolution and in manufacturing of reflective multi-layered thin film mirrors with minute absorber pattern sizes (less than 20 nm line width) compared to traditional manufacturing methods.

WO 2005/050719 A1



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